Effect of tricalcium aluminate content of cement on corrosion of reinforcing steel in concrete

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Abstract: Results of accelerated laboratory studies reported in this paper show that a high tricalcium aluminate content of cement has a significant beneficial effect on reinforcement corrosion resistance performance of concrete structures. On an average, a 9.5% Type I cement performs 1.62 times better than a 2.8% C3A Type V cement in terms of corrosion initiation time for embedded reinforcement. This appears to be due to the complexing ability of C3A with free chlorides in cement.